

Airspace Analyzer for Assessing Airspace Directional Permeability, Phase I

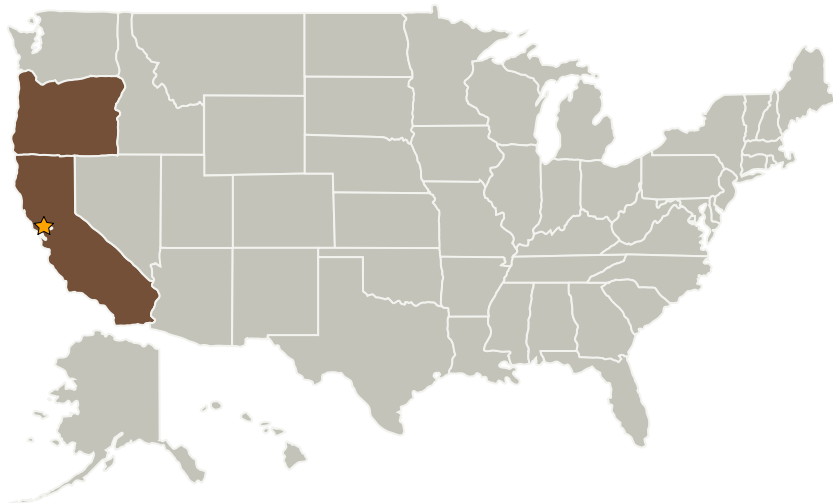
Completed Technology Project (2008 - 2008)



Project Introduction

We build a software tool which enables the user (airline or Air Traffic Service Provider (ATSP)) the ability to analyze the flight-level-by-flight-level permeability of airspaces constrained by weather-hazards (turbulence, icing, and convection). The Airspace Analyzer automatically determines the space-time boundaries where weather hazards constrain capacity. The solution approach is based on an algorithm using computational geometry techniques for estimating the directional permeability of an airspace given the direction of the dominant demand flow on an airspace and the safety requirements of aircraft passing through the airspace. Phase I will result in theory, software, and examples that demonstrate proof of concept, and Technology Readiness Level (TRL) 3. Phase II will produce a prototype that demonstrates benefit to the airline and ATSP customer at TRL 4.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★Ames Research Center(ARC)	Lead Organization	NASA Center	Moffett Field, California
The Innovation Laboratory, Inc.	Supporting Organization	Industry Women-Owned Small Business (WOSB)	Portland, Oregon



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Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Ames Research Center (ARC)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

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Primary U.S. Work Locations

California

Oregon

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Principal Investigator:

Joseph Krozel

Technology Areas

Primary:

- TX16 Air Traffic Management and Range Tracking Systems
 - └ TX16.3 Traffic Management Concepts